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GROUP 1700

In re Application of

Tokuju OIKAWA et al.

Serial No. 10/058,028

Group Art Unit: 1752

Filed: January 29, 2002

Examiner: Thorl Chea

For: PHOTOTHERMOGRAPHIC MATERIAL

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Technology Center 2600

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner of Patents and Trademarks,

Washington, D.C. 20231

Sir:

I, Tokuju OIKAWA, a Japanese citizen, working at No.210, Nakanuma Minami-ashigara-shi, Kanagawa 250-0123 Japan, hereby declare and state that I received a Master's Degree from Tohoku University, Faculty of Engineering, Course of Applied Physics in March of 1989, and I was employed by Fuji Photo Film Co., Ltd. in April of 1989 and since that time I have been principally engaged in research and development of silver halide photographic materials, particularly emulsions used therein, at the Ashigara Research Laboratories of said company.

I declare further that I am a co-inventor of the subject matter of the claims in the above-identified application and I have read all of the documents contained in the file wrapper of the above-entitled application.

I declare further that the test described below was conducted at my

direction and under my supervision and the test results are true and correct to the best of my knowledge.

EXPERIMENT 1

Photothermographic material (Sample 1-11) was prepared in the same manner as Sample 1-5 in Example 1-1 of the present specification except that Compound Y-2 having the chemical structure below was used in place of Compound Y. Sample 1-11 was evaluated in the same manner as in Example 1-1. Table 17 shows the results of the evaluation for Sample 1-11 and Samples 1-1 to 1-10 prepared in Example 1-1.

Compound Y-2 (Nucleating Agent H shown in JP 11194447)

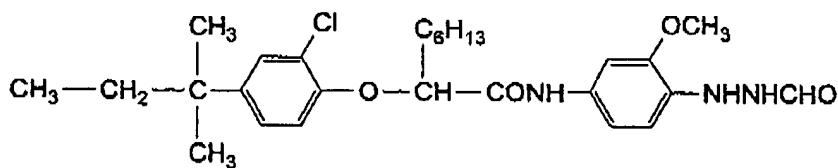


Table 17

Sample No.	Silver halide emulsion No.	Compound of the present invention	Developed silver grain density (%)	Covering power (%)	Sensitivity	Dmin		Dmax (25°C, 10%RH)	Variation of line width (μ m)	Note
						Undeveloped	50°C, 75%RH, 3days			
1-1	A	A-62	1800	320	100	0.12	0.13	4.0	11	Comparative
1-2	B	A-62	2100	340	213	0.20	0.31	4.2	16	Comparative
1-3	C	A-62	1800	320	228	0.16	0.20	4.1	13	Comparative
1-4	D	A-62	1800	320	232	0.12	0.12	4.1	8	Invention
1-5	D	Y	1800	320	221	0.17	0.22	4.1	11	Comparative
1-6	D	—	100	100	34	0.13	0.14	1.3	11	Comparative
1-7	E	A-62	1800	320	229	0.12	0.12	4.1	8	Invention
1-8	F	A-62	2100	340	180	0.12	0.12	4.2	5	Invention
1-9	G	A-62	1800	320	265	0.13	0.13	4.1	8	Invention
1-10	H	A-62	1500	310	281	0.15	0.16	3.9	14	Comparative
1-11	D	Y-2	106	103	36	0.17	0.24	1.4	11	Comparative

EXPERIMENT 2

Photothermographic material (Sample 1-11') was prepared in the same manner as Sample 1-5' in Example 2-1 of the present specification except that Compound Y-2 was used in place of Compound Y. Sample 1-11' was evaluated in the same manner as in Example 1-1. Table 20 shows the results of the evaluation for Sample 1-11' and Samples 1-1' to 1-10' prepared in Example 2-1.

Table 20

Sample No.	Silver halide emulsion No.	Compound of the present invention or comparison	Developed silver grain density (%)	Covering power (%)	Sensitivity	Dmin		Dmax (25°C, 10%RH)	Variation of line width (μ m)	Note
						Undeveloped	50°C, 75%RH, 3days			
1-1	A'	A-62	1800	320	100	0.12	0.13	4.0	10	Comparative
1-2	B'	A-62	2100	340	210	0.20	0.31	4.2	15	Comparative
1-3	C'	A-62	1800	320	223	0.16	0.20	4.1	12	Comparative
1-4	D'	A-62	1800	320	227	0.12	0.12	4.1	9	Invention
1-5	D'	Y	1800	320	219	0.17	0.22	4.1	10	Comparative
1-6	D'	-	100	100	33	0.13	0.14	1.3	11	Comparative
1-7	E'	A-62	1800	320	225	0.12	0.12	4.1	8	Invention
1-8	F'	A-62	2100	340	177	0.12	0.12	4.2	5	Invention
1-9	G'	A-62	1800	320	250	0.13	0.13	4.1	9	Invention
1-10	H'	A-62	1500	310	275	0.15	0.16	3.8	15	Comparative
1-11	D'	Y-2	104	102	35	0.17	0.24	1.4	10	Comparative

Table 17 and 20 indicate that the photothermographic materials of the claimed invention showed high sensitivity, low Dmin, high Dmax, little increase of fog during storage and low temperature and humidity dependency during development in comparison with the comparative photothermographic materials. It should be noted that inferior effects were obtained by Samples 1-5 and 1-5' containing the hydrazine compound shown in Ito, U.S. Patent No.6,150,084 (Compound Y) and Samples 1-11 and 1-11' containing the nucleating agent shown in JP 11194447 (Compound Y-2).

I believe that no one skilled in the art would have been motivated to select the organic gold compounds among numerous kinds of sensitizing compounds and combine the organic gold compounds with the compounds satisfying the claimed conditions (i)-(iv), when the claimed invention was made. None of the cited references specifically indicate the combination.

I also believe that no one skilled in the art could have predicted that the claimed combination creates such remarkable effects as higher sensitivity, lower fog, higher Dmax, improved storage stability and low temperature and humidity dependency during development.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Dated this 28 day of February, 2003.

Tokuju Oikawa

Tokuju OIKAWA